

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018877**Date Inspected:** 21-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 11BE (Retro-fit Plates)

This QA Inspector witnessed final bolt tension verification on bolts connecting Bottom Panel T-Rib connection plates to Floor Beam at first Bottom Panel T-Rib Cross Beam Side (from work point E4) and Bike Path side (from work point E3) at Panel Points (PP) 99 to PP 100 for Segment 11BE. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00578 Dated December 21, 2010.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

Please reference the pictures attached for more comprehensive details.

Segment 11DE (Retro-fit Plates)

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

This QA Inspector witnessed final bolt tension verification on bolts connecting Bottom Panel T-Rib connection plates to Floor Beam at first Bottom Panel T-Rib Cross Beam Side (from work point E4) and Bike Path side (from work point E3) at Panel Points (PP) 104 to PP 105 for Segment 11DE. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00578 Dated December 21, 2010.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Bike Path at Bay # 8

This QA Inspector performed Dimension Control Inspection on the Bike Path bottom plate for flatness check across the longitudinal butt weld. Flatness check was performed on following mentioned Bike Paths and Bike Path are identified as:

BK004A-058.

BK004A-061.

The QA Inspector measured the flatness using 600mm long straight edge across the Butt (CJP) weld and using 1500mm long straight edge between the stiffeners which are plug weld to bottom plate.

Observed flatness within the allowable tolerance.

The result of the inspection was informed to ZPMC QC Mr. Liu Fawen, ABF Mr. Huang Wen Guang and Caltrans Lead Inspector Mr. Mark Miller and Mr. Hiranch Patel.

Suspender Bracket at Bay # 19

This QA Inspector performed Dimension Control Inspection along with ABF QA Inspector to check and measure the Suspender Bracket (SB) lifting rod hole spacing by placing the socket template at the following suspender brackets.

SB 96W which will be installed at Segment 11AW, Counter Weight side.

SB 98W which will be installed at Segment 11BW, Counter Weight side.

SB 100W which will be installed at Segment 11BW, Counter Weight side.

SB 102W which will be installed at Segment 11CW, Counter Weight side.

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

---

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector Mr. Mark Miller and Engineer Mr. Aaron Prchlik for review and disposition.

### Segment 12AW to Segment 12BW (Transverse Splice weld)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12D-001. The welder identification was 040611, 044551 and 040656 observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Side Panel, Counter Weight side at transverse splice.

### Segment 12AW to Segment 12BW (Transverse Splice weld)

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12B-001. The welder identification was 053486 and observed welding in the 1G (Flat) position using approved Welding Procedure Specification WPS-B-T-2231T-ESAB. The piece mark was identified as the Bottom Panel at transverse splice.

### Segment 12AE to Segment 12BE (Transverse Splice weld)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBE12D-003. The welder identification was 044504 and 044515 observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Side Panel, Bike Path side at transverse splice.

Please reference the pictures attached for more comprehensive details.

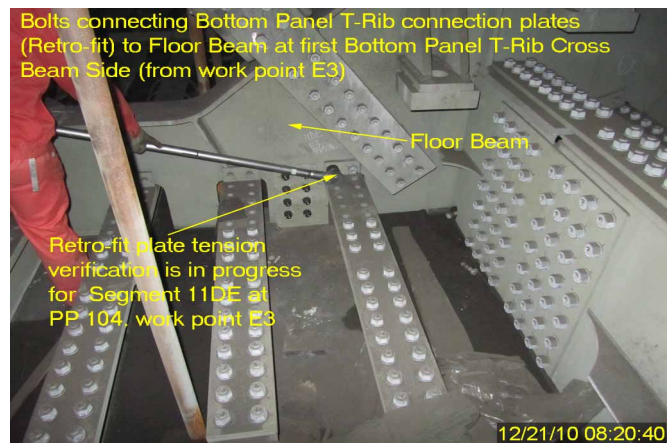
### Segment 12AE to Segment 12BE (Transverse Splice weld)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA6502-008. The welder identification was 050289 observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Side Panel Corner Assembly, Bike Path side at transverse splice.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

# WELDING INSPECTION REPORT

( Continued Page 4 of 4 )



## Summary of Conversations:

No relevant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Math,Manjunath

Quality Assurance Inspector

**Reviewed By:** Dsouza,Christopher

QA Reviewer